

WHAT IS CLAIMED AND DESIRED TO BE SECURED BY LETTERS
PATENT OF THE UNITED STATES IS:

5 1. A method, comprising the steps of:
cutting a product from a stalk from which is was grown;
removing a core of the product; and
placing the de-cored product in a tote.

10 2. The method according to Claim 1, wherein said step of
removing comprises cutting the core off.

 3. The method according to Claim 1, wherein said steps of
cutting, removing, and placing are performed at one of in the
15 field where the product was grown and at a processing plant
prior to washing.

 4. The method according to Claim 1, wherein said steps of
removing, and placing are at a processing plant.

20 5. The method according to Claim 1, wherein a whole head
nature of the product is retained.

6. The method according to Claim 1, wherein said step of removing comprises cutting out the core of the product using a stainless steel knife.

5 7. The method according to Claim 1, wherein said step of removing comprises cutting out the core of the product using a v-cut or other device for removing the core.

10 8. The method according to Claim 1, further comprising the step of pre-washing the cut product prior to placing it in the tote.

15 9. The method according to Claim 1, further comprising the step of spray washing at least one end of the product before placement in the tote.

20 10. The method according to Claim 9, further comprising the step of spray washing the product after placement in the tote and prior to transfer to a transport vehicle.

11. The method according to Claim 1, further comprising the step of cleaning the de-cored product in the tote by placing the tote in a flow of washing fluid such that de-cored ends of the product are facing the flow.

12. The method according to Claim 11, wherein a whole head nature of the product is retained from harvesting through washing, drying, and packaging

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13. The method according to Claim 11, wherein the flow comprises a first flow directed at a first side of the tote and a second flow directed at a second side of the tote.

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14. The method according to Claim 13, wherein the step of placing comprises placing a first row of the de-cored product in the tote with de-cored ends of the product in the first row facing the first side of the tote, and placing a second row of the de-cored product in the tote with de-cored ends of the product in the second row facing the second side of the tote.

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15. The method according to Claim 13, wherein the de-cored product is placed in multiple rows on top of each other in the tote.

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16. The method according to Claim 1, further comprising the step of immersing the tote in a wash tank for cleaning.

17. The method according to Claim 16, wherein the wash tank includes a flow of washing fluid.

18. The method according to Claim 16, wherein the wash tank comprises a flow of washing fluid relative directed toward the de-cored ends of the product.

19. The method according to Claim 16, wherein said step of immersing comprises loading the tote on a conveyance device that carries the tote through a wash tank.

20. The method according to Claim 19, wherein the product is placed in the tote in an orientation such that the cut and de-cored ends of the product face a flow of washing fluid in the wash tank.

21. The method according to Claim 1, wherein the product is oriented within the totes in a direction consistent with requirements of a spin dryer.

22. The method according to Claim 11, further comprising the step of spin drying the product in the tote;

wherein a whole head nature of the product is maintained from harvesting through washing, drying, and packaging.

23. The method according to Claim 22, wherein a temperature of the washing fluid and other equipment utilized in the washing, drying, and packaging achieves and maintains the product in a temperature range that extends a shelf life of the product.

24. The method according to Claim 23, wherein a temperature of the washing fluid and other equipment utilized in the washing, drying, and packaging equipment achieve a product temperature of approximately 33 - 38 degrees F.

25. Packaged produce, comprising whole head de-cored produce.

26. The packaged produce according to Claim 25, wherein the packaged produce has been washed, dried, and packaged ready for use.

27. The packaged produce according to Claim 25, wherein the packaging comprises a side loaded plastic bag.

28. The package produce according to Claim 27, wherein the plastic bag includes a re-closable zipper.

29. The packaged produce according to Claim 26, wherein
said washed produce comprises subjecting the whole head de-cored
produce to a flow of washing fluid through the de-cored end of
the produce.

30. The packaged produce according to Claim 26, wherein
the produce was de-cored in a field where it was harvested,
loaded in totes, and washed in a flow of washing fluid while in
the totes.

31. The packaged produce according to Claim 26, wherein
the produce is spin dried in totes.

32. The packaged produce according to Claim 16, wherein
the produce is field loaded into totes, and washed and dried in
the same field loaded totes.

33. A method, comprising the steps of:

cutting a product from a stalk from which is was grown;

removing a core from a core end of the product;

5 pre-washing the de-cored end of the product;

loading the de-cored product in a tote in a pre-aligned
direction relative to the tote;

transporting the tote to a processing facility;

immersing the totes in a washing;

10 loading the tote, directly from the washing solution,
without re-loading, to a spin dryer; and

drying the washed de-cored product in the tote in the spin
dryer.

15 34. The method according to Claim 33, further comprising
the step of packaging the washed and dried de-cored product.

35. The method according to Claim 33, wherein the washing
solution comprises at least one of chilled water, chlorine, and
20 an anti-bacterial agent.

36. The method according to Claim 33, wherein:

the transport mechanism comprises a first conveyor belt;

and

the method further comprises the steps of,

covering an open top end of the tote with a second conveyor

belt, and

maintaining registration of the tote with the first
conveyor belt by pressing it against the first conveyor belt

with the second conveyor belt.

37. The method according to Claim 33, wherein the
transport mechanism comprises a conveyor belt having one of
latches and stops configured to maintain registration of the
tote with the conveyor belt.

38. The method according to Claim 33, further comprising
the step of spray washing ends of the product before loading in
the tote.

39. The method according to Claim 33, further comprising
the step of spray washing ends of the product after loading in
the tote.

40. The method according to Claim 33, wherein said step of immersing comprises loading the tote on a transport mechanism configured to transport the tote through the washing tank.

5 41. The method according to Claim 40, wherein the transport mechanism is configured to transport the tote into a flow of washing fluid directed at the de-cored end of the product in the tote.

10 42. The method according to Claim 33, wherein:
the tote includes openings large enough to allow the flow of washing fluid and small enough to secure the produce in the tote; and

15 the flow of washing fluid has sufficient strength to cause at least some of the washing fluid to flow through the de-cored end and out a leafy end of the produce.

43. A wash device for washing cut vegetables in totes, comprising:

20 a wash tank; and
a transport mechanism configured to immerse totes containing cut de-cored vegetables in the wash tank.

44. The wash device according to Claim 43, further comprising:

a flow device configured to cause a flow of a cleaning solution;

5 wherein:

the transport mechanism is configured to move the totes through the wash tank in a pre-determined alignment direction; and

10 the pre-determined alignment direction comprises an axial direction in which cut de-cored vegetables are to be located in the totes.

45. The wash tank according to Claim 43, further comprising:

15 a flow device configured to cause a flow of a cleaning solution;

wherein:

the transport mechanism is configured to move the totes through the wash tank and the flow in a pre-determined alignment;

20 the flow of the cleaning solution comprises a first flow directed at a first side of the totes and a second flow directed at a second side of the totes as the totes pass through the wash tank;

the pre-determined alignment comprises a direction in which cut de-cored vegetables are located in the totes such that the cut de-cored ends of the vegetables face one of the first and second flows.

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46. The wash tank according to Claim 44, wherein the axial direction comprises an axis of the cut de-cored vegetables that is parallel to the flow of liquid, and the de-cored end of the vegetables facing the flow of liquid.

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47. The wash tank according to Claim 46, wherein the liquid comprises a chilled anti-bacterial solution.

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48. The wash tank according to Claim 46, wherein the wash tank comprises a dual chamber wash tank with at least one chamber containing a chilled anti-bacterial solution.

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49. The wash tank according to Claim 48, wherein:
the cut de-cored vegetables comprise leafy vegetables where the de-cored end of the vegetables face toward the flow of the liquid;

the leafy end of the vegetables face away from the flow of the liquid; and

the flow of liquid comprises a flow through the vegetable.

50. The wash tank according to Claim 49, wherein the totes
comprise slotted totes that allow the flow of liquid to be
sufficient to open the leafy vegetables but not allow the
5 vegetables to be forced out of the totes.

51. The tank according to Claim 49, wherein the totes are
slotted totes and a rate of the flow of liquid is maintained by
the flow device at a rate sufficient to open the leafy
10 vegetables but not allow the vegetables to be forced out of the
totes.

52. The wash tank according to Claim 46, wherein the
liquid comprises a chilled anti-bacterial solution.

53.. The wash tank according to Claim 52, wherein the
vegetables comprise vegetables loaded in totes in a field where
they are harvested.

54. The wash tank according to Claim 52, wherein the
vegetables comprise vegetables, that are cut, de-cored, and
loaded into totes in a field where they are harvested.

55. The wash tank according to Claim 52, wherein the vegetables comprise vegetables, that are cut, de-cored, pre-washed, and loaded into totes in a field where they are harvested.

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56. The wash tank according to Claim 52, wherein the cut vegetables comprise vegetables, that are cut, de-cored, pre-washed, loaded into totes, and spray washed on at least one end of the vegetables in a field where they are harvested.

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57. The wash tank according to Claim 56, wherein the spray wash comprises a chlorine wash solution.

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58. The wash tank according to Claim 46, further comprising a filter set up to filter the liquid.

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59. The wash tank according to Claim 46, further comprising a liquid monitor configured to report on conditions of the liquid.

60. The wash tank according to Claim 44, wherein the transport mechanism comprises a conveyor means having stops configured to hold the totes.

61. The wash tank according to Claim 44, wherein the transport mechanism comprises a conveyor belt having one of stops configured to secure the totes and latch devices configured to secure the totes.

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62. The wash tank according to Claim 44, wherein the transport mechanism comprises a first conveyor device configured to move the totes through the wash tank; and

10 a securing device configured to move with the totes and at least one of maintain a position of the totes on the first conveyor, secure a top of the totes, and help move the totes through the wash tank.

15 63. The wash tank according to Claim 44, wherein the transport mechanism comprises a dual conveyor belt comprising a bottom belt for supporting the totes and a top belt for securing the totes.

20 64. The wash tank according to Claim 63, wherein the conveyor belts run in a direction perpendicular to the flow of liquid, and the pre-determined alignment direction is parallel to the flow of liquid.

65. The wash tank according to Claim 64, wherein the vegetables are de-cored and an axial direction in which the vegetables are to be located in the totes comprises the de-cored end of the vegetables facing the flow of the liquid.